ATOMIC ENERGY newsletter
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Dear Sir:

Industry in the United States would like more than $300,000,000.00 in insurance to cover the hazards of using radioactive processes or materials, a recent survey by Schiff, Terhune & Co., New York insurance brokers has shown; no such insurance is available, however. The survey, made of 1,000 representative companies in all parts of this country, attempted to discover what degree of interest existed in insurance protection from non-war atomic dangers. Greatest interest was shown in insurance covering buildings and equipment againt the hazards of being made unusable through radioactive contamination.

The electric power industry of the United States, and the reactor development program of the AEC will be afforded closer cooperation through an advisory committee just appointed in Washington. Headed by Philip Sporn, president, American Gas and Electric, with E. W. Morehouse, vice-president, General Public Utilities Corporation, and Walton Seymour, of the Department of the Interior, as other members, the committee will review the AEC's reactor development program under which nuclear energy would be used to furnish commercially usable power.

For the Knolls Atomic Power Laboratory, at West Milton, N.Y., near Schenectady, where a pilot version of an atomic central-station power plant will be situated, bids have been asked on an administration building, fire station, maintenance shop, carpenter and machine shops, and roads and utilities. The work, estimated at over $1 million, will be let by U.S. Atomic Energy Commission, % General Electric Co., River Road, Schenectady, N.Y.

At Eniwetok Atoll, in the Pacific, site of the atomic weapons proving ground of the United States, technical facilities needed for the work here will be installed, and structures and utilities made useless by the tropical climate will be replaced. The engineering firm of Holmes and Narver, of Los Angeles, Calif., has been awarded the contract for this work.

The President's new Atomic Energy Labor Relations Panel, in one of its first cases, has helped settle a dispute between Monsanto Chemical Company, and the CIO Gas, Coke and Chemical Workers, over an original contract. It covers some 250 employees at the Mound Laboratory, at Miamisburg, Ohio, operated for the AEC by Monsanto. Under the terms agreed upon, certain wage increases averaging about 20¢ an hour, and other benefits, were granted; union shop proposal was vetoed.

Certain rare metals, limited in use because of their hardness and brittleness, may soon be widely employed as a result of nuclear research, a symposium on the physics of powder metallurgy was told last week. At the first session of this 3-day meeting at Fort Totten Auditorium, on Long Island, sponsored by Sylvania Electric Co., of New York, 125 American and European chemists, physicists, and engineers were told by Dr. H.H. Hausner, of New York University, that powder metallurgy developments were an important facet of advances in nuclear energy work.

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INSTRUMENTS...and products for nuclear work...

Beta Gauge, model SM-3. Second of a series of industrial measuring and control instruments using radioactive isotopes. Measures weight per unit area (and thickness, if specific gravity is known) of continuously moving sheets of material without physical contact and regardless of chemical composition, up to 700 mg/cm2, and provides an indication when manufacturing tolerances are exceeded. Designed for use in small production lines where low initial cost is a particular essential, and in processes where manual standardization can be carried out without seriously interfering with production.--Tracerlab, Inc., Boston 10, Mass.

Geiger-Muller scaler, model 2000. Need for interpolation eliminated through direct reading of number of counts (on front panel). Decimal scale of 1,000 used in combination with a new direct-reading mechanical register with zero reset.--Berkeley Scientific Co., Richmond, Calif.

Alpha-beta-gamma proportional counter, model PC-1. Features a built-in automatic timer adjustable up to 56 minutes. Scale of 512 with resettable 6-digit counter, gives up to 500,000 counts per minute.--Nuclear Measurements Corp., Indianapolis, Ind.

New multiple phototube for scintillation counters, RCA-5819. Head-on type; intended for detection and measurement of nuclear particle radiation. Features a semi-transparent photocathode with a diameter of 1¼ in., and an area of 1.8 sq. in. Relatively large cathode area permits efficient collection of light from large-area light sources, such as are encountered in scintillation counters.--Radio Corp. of America, Harrison, N. J.

Radioantimony-Beryllium neutron source. Sources use a core of 32 grams of antimony metal surrounded by a 3/16th in. thick beryllium metal cup, the assembly being enclosed in an aluminum jacket. Antimony-122 (half-life 2.8 days) and antimony-124 (half-life 60 days, gamma ray energy 1.72 M.e.v.) are both formed when the entire unit is irradiated in the pile at Oak Ridge. Source can stand for two weeks before shipment to allow the antimony-122 to decay. One source, activated for 69 days, and cooled for 16 days, gave an unshielded gamma radiation reading of about 20 roentgens/hr. at one foot. Costs: Antimony-beryllium source, $44.00; service to irradiate source, $43.00 per month; returnable deposit on container, $400.00.--Isotopes Division, USAEC, Oak Ridge, Tenn.

ATOMIC PATENT DIGEST...latest grants and applications...

Special containers. Patent application No. 18265, made to British Patent Office, July 11th, 1949, by Gamma Rays, Ltd.

Radioactive radiation detection apparatus. Patent applications Nos. 18626, 7, and 8, made to British Patent Office, July 14th, 1949, by W. H. Graffunder. (In Switzerland, July 14th, 1948; Feb. 1st, 1949; and May 14th, 1949, respectively.)

Synchrotron. Patent application No. 18830, made to British Patent Office July 28th, 1949, by Brown, Boverie & Cie. (In Switzerland, July 28th, 1948.)

Protection of optical instruments by radium emanations. Preventing the growth of microorganisms on a lens in an optical system by the use of approximately 15 micrograms of radioactive material at the periphery of the lens. U. S. Pat. No. 2,478,955, issued August 16th, 1949, to Richard E. Vicklund, Arlington, Va.

Radioactive metal product and method of manufacturing. Comprises intimately admixing a finely divided metal and a finely divided radioactive alpha-particle-emitting substance, pressing and sintering the resulting mixture into a compact, and sandwiching the radioactive core between sealing films, making it substantially proof against leakage of radioactive gas. U. S. Pat. No. 2,479,882, issued August 23rd, 1949; assigned to U. S. Radium Corp., New York, N.Y.

Geiger-Muller counter. U. S. Pat. No. 2,479,201, issued August 16th, 1949; assigned to Philips Laboratories, Irvington-on-Hudson, N. Y.

RADIATION...

The synchrotron which has been installed in the medical physics department of the Royal Cancer Hospital in London marks the first time such a device has been used in a hospital for full-time use. (An X-ray tube running at 50 million volts would be required to give X-rays of the same penetration as those produced by this synchrotron.) It is the first of two developed in England for the Medical Research Council, which has borne the cost; the second is now being installed in the department of radiotherapeutics at the University of Cambridge. Research work on these instruments has been done largely at the Telecommunications Research Establishment, Great Malvern; the English Electric Co., of Stafford, constructed the magnets and much of the electrical apparatus. Physical and biological investigations will be undertaken before the instrument will be used for clinical work. Its location, partly underground, affords natural protection against the penetrating radiation. For the operator's room, concrete bricks in walls three feet thick have been used as the main protection.

In the United States, the University of California's Medical School, in San Francisco, is also to acquire such a specially designed synchrotron. General Electric Company are to construct it at a cost of $250,000.00; a special building will house it and provide radiation shielding. Dr. Robert S. Stone, head of the University's Department of Radiology, will head studies on the high energy radiation of the synchrotron. (The particular characteristics of this radiation make it possible, using a single field, to give a dose several centimeters under the skin, several times as great as that received by the skin; skin tolerance will not, therefore, be a limiting factor.

Lloyd Smith, of Berkeley, Calif., who contracted cataracts from radiation by the University of Illinois cyclotron, will receive compensation for expenses incurred in medical treatment. Authorized by the University of Illinois Board Trustees, the amount is to be determined in accordance with a formula followed in other compensation cases governed by the Occupational Diseases Act of Illinois.

Claiming that she contracted a severe bronchial infection while working at the Y-12 electromagnetic separation plant at Oak Ridge from 1943 to 1946 (which at that time was making uranium-235), Eleanor D. Woodward, former forelady there, has filed a $50,000.00 damage suit against Tennessee Eastman Corp., then operating Y-12.

RADIOISOTOPE NOTES...

Severe toxic diffuse goiter in eighteen patients, considered inoperable due to various complications, was treated at the Cedars of Lebanon Hospital, Los Angeles, Calif., with a total of 1.5-14.5 millicuries of iodine-131 in divided doses during 2.5-8 months. Results: In thirteen instances, there was a complete remission of the disease; one patient died of unknown causes three months after a complete remission; one patient with a toxic adenoma remained unimproved; and of two with chronic toxicity, one was greatly and the other moderately improved. One patient developed a schizoid personality after complete remission; however, of the three with instability and psychoses prior to treatment, two became mentally adjusted, and one remained the same. One patient with a thyroid malignancy had a complete remission, and disappearance of neck nodules. No untoward reaction occurred from treatment, and none developed radiation sickness.

An "Introduction to Nuclear Physics for Medical Specialists" is a course that will be given at Mt. Sinai Hospital, New York, by the College of Physicians and Surgeons of Columbia University, from October 7th to January 20th; fee is $60.00 for the course.

Fifteen new radiochemical compounds tagged with carbon-14 have now been made available by Tracerlab, Inc., of Boston, Mass., bringing to twenty-four the total number of such organic radiochemicals carried in stock.

AT THE ATOMIC CITIES OF THE UNITED STATES...

OAK RIDGE, Tenn.- Long-term leases of government-owned land and buildings for commercial purposes are now to be granted here for the first time under a new program given official approval last week. Service and business operations, except housing and private manufacturing enterprises, are affected. In the past, businesses here have, in the main, been operated under short-term concession agreements; little incentive was provided for a sound business community.

More than 50 Southern physicists have joined local scientists in a two-week symposium here on nuclear and atomic physics which began August 22nd. Under the sponsorship of the Oak Ridge Institute of Nuclear Studies, and the Oak Ridge National Laboratory, objectives are to keep Oak Ridge and Southern physicists abreast of latest developments in these fields.

Oak Ridge has been shown to be a prosperous market in a recent nation-wide survey conducted by Sales Management magazine. The average family effective buying income in 1948, in Oak Ridge, was $4,518.00, or $849.00 more than the average for the rest of Tennessee, and $1,082.00 more than the average for families in the east south-central states. The number of families from which the average was obtained was 9,800.

For rehabilitation of 504 TDU dewelling units, part of the building improvement program here, bids will be opened September 22nd by Roane-Anderson Co., P.O. Box 435, Oak Ridge, Tenn.; bid invitation number 50-7.

Some 1,265 acres of land, directly west of the Clinch river, in the southwest portion of the reservation, are now being acquired by the Federal government, to provide additional security safeguards for the Oak Ridge area. Acquisition of the land brings to approximately 61,500 the total number of acres in the area.

LOS ALAMOS, N.M.- At White Rock, the $4 million suburb of Los Alamos built to house construction workers at Los Alamos, first business locations were recently offered to prospective retailers. About $160,000.00 has been spent on these locations now offered on bid. White Rock is now half-completed, with several of its units already occupied by families.

The U.S. Engineers, P. O. Box 1538, Albuquerque, will open bids September 14th for a 150 bed hospital (est. cost, $2 million) at nearby Sandia Base, atomic bomb engineering center; bid serial no. Eng. 29-055-00-1. At Los Alamos, the Construction Division, USAEC, has issued bid invitation no. 8 for construction of access roads TA 16 & 22; bids will be opened September 8th. On invitation no. 2, opened August 2nd, Raymond P. Avery, of Los Alamos, with a bid of $138,-425.44 was lowest of five bidders on construction of sidewalks, streets, etc., at Los Alamos.

RICHLAND, Wash.- Attempts to secure a daily newspaper here appear stalemated with the rejection by General Electric Co. (operators of the Hanford plutonium facility here, as well as the community) of the bid of the Frayn Printing Co., of Seattle, Wash. (AEN 8/2/49). G-E have objected to Frayn's request for a franchise which would require any other newspaper with its principal distribution in Richland to "edit, publish and print" there. This would exclude the present weekly Richland paper, which is now printed in Seattle, some 150 miles distant, and a daily, which is published and printed in nearby Pasco and which has a substantial circulation in Richland.

Cost of Richland's railroad spur, $1,060,976.00 contract for which was awarded recently to J. A. Terteling & Sons, Boise, Idaho, will be repaid to the Federal government by the Union Pacific Railroad. An AEC spokesman said the government would be reimbursed in monthly payments over a period of years. The line, to haul freight to Richland and the Hanford project, will connect with the UP's Yakima branch about five miles west of Kennewick, Wash.

RADIOACTIVE ORE DISCOVERIES...new workings...worldwide

UNITED STATES...Phoenix, Arizona- Geiger counter tests at the Hillside Mine in Prescott have shown radioactive ore occurences. Charles H. Dunning, director, State Department of Mineral Resources, said the mine is "interesting as a potential producer of uranium".

Vanadium Corporation of America has agreed to convert from dry to wet drilling and provide respirators for the Navajo Indians working uranium claims in northern Arizona. Changes were recommended by Charles H. Dunning (above), and settle a controvery between Dunning's department and the company. Vanadium Corporation is reported to be producing about 200 tons of ore a day. (Ten per cent of the income derived from these sales of uranium ore is returned to the Navajo Tribal Council. On the basis of 200 tons of ore daily, the Indians receive $1,000.00 a day.)

OCCUPIED GERMANY & POLAND- At Wismuth A.G., one of the most important units in the organization established in the Russian zone of Germany in connection with the mining of uranium-bearing ores, about 87,000 men are working for this company on the German side of the Erzgebirge mountains right up to the Czechoslovak frontier, where drilling operations of both countries merge. Observers state that many administrative posts are at present held by former Nazi members of the SS and SA, who are classified as specialists, and protected as such.

The uranium yield is said to bear no relation to the cost. The introduction of a progressive wage scale, based on output, is claimed to have resulted in almost a doubling of the general costs of Wismuth A.G., which are now running at about 90 to 100 million ostmarks per day. This amount is being raised by the German Economic Commission, and the "free" shops established in the Russian zone. In November, 1948, certain miners received monthly salaries of 10,000 ostmarks and over. Although since reduced, 2,000 to 3,000 ostmarks are still being earned per month.

Compulsory drafting of workers has been given up; however, labor exchanges ask unemployed or temporarily employed persons to volunteer for uranium mining. In case of refusal, the withdrawal of the ration card is said to have been threatened.

The town of Zwickau was declared a mining town, and had to accomodate, in the last quarter of 1948, and the first quarter of this year, in addition to 2,500 workers living in barracks, a further 6,400 men. Accomodations in the smaller Erzgebirge mining units are described by an observer as "unworthy of human beings"; the compulsory evacuation of persons not connected with uranium-ore mining has started.

The latest drilling undertaken is directly below the Filzponds, near Schneeberg, in the Erzgebirge, where work is being carried on with the most primitive tools. The high uranium oxide content of the ore, and the lack of any protective devices for the miners (respirators, etc.) is believed to be seriously damaging the miners' health. One shift at Filzponds amounts to only four hours; miners are restricted in the number of shifts they may work. The shift wage is 350 ostmarks, payable after each shift, with complete ration and supplementary cards.

A processing works has been established in a former paper mill at Cossen-on-the-Mulde, where uranium ore is being treated according to a method only recently developed, and claimed an improvement over previous separation processes.

Sincerely,

The Staff,
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